

in the parent was non-responsive because new method claims were presented. Because the Applicants' Response appeared to be a *bona fide* attempt at response, the Office Action provided a one month date due date from the Office Action of October 17, 2003.

Applicants respectfully traverse the assertion that presentation of composition claims that have been amended into method claims in view of a prior art rejection constitutes a non-responsive Response, particularly in view of the fact that a Restriction Requirement was never made in the parent case. Even if the method claims were not originally present, the outstanding Office Action amounts to a *de facto* Restriction Requirement which forecloses Applicants' opportunity to traverse the Examiner's assertion as to whether the *de facto* Restriction Requirement was indeed a proper restriction under § 121.

However, in the interest of advancing prosecution and in view of the Office Action's naked assertion that the product and process claims are patentably distinct, Applicants have now filed the captioned new continuation application presenting the previously filed amended method claims 1-12 as new method claims 13-24.

Support for the amendments can be found in the specification at page 10, line 16 to page 11, line 1.

No new matter within the meaning of § 132 has been included by any of the amendments.

Accordingly, Applicants respectfully request the Examiner to enter the amendments, reconsider the rejections made in the parent in view of the present amendments and allow all claims pending in this application in a first action.

**1. Rejection of Claim 12 under**  
**35 U.S.C. § 112, ¶ 2**

The Office Action in the parent rejected claim 12 under 35 U.S.C. § 112, ¶ 2 as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. The Office Action stated:

The phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

New claim 24, which corresponds to claim 12 of the parent does not contain the phrase "such as".

Accordingly, Applicants respectfully submit that the rejection is moot.

**2. Rejection of Claims 1-12 under 35 U.S.C. § 102(b)**

The Office Action in the parent rejected claims 1-12 under 35

U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,042,989 ("Schaedeli et al."). The Office Action stated:

Schaedeli et al. teach terpolymers containing organosilicon side chains. See for instance the general units (I), (II) and (III) found on column 3. Specifically note Example 6 which reacts a monomer corresponding to (B) and claim 5, a monomer corresponding to (C) and claim 7, and a monomer corresponding to (G). The amounts of each monomer meet the claimed amounts of each unit and the number average molecular weight falls within the claimed range. In this manner, the instant claims are anticipated.

With regards to claims 2, 4, and 6, the Examiner notes that since the final polymer per se in Schaedeli et al. corresponds to the polymer produced by using the monomer as claimed, these limitations have the effect of a product-by-process type limitation and fail to distinguish the instant claims from the prior art. With regards to monomer (H) the Examiner notes that "up to" embraces 0, and thus this limitation is met by the prior art. Again, note that the monomers in claims 8 to 11 are not required by the instant claims.

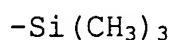
Applicants respectfully traverse the rejection made in the Office Action of the parent application because Schaedeli et al. does not teach the presently claimed method for imparting flow-and-leveling properties to water based coatings. Instead, Schaedeli et al. only relates to radiation-sensitive compositions and processes for the lithographic treatment of a substrate within the semiconductor art. Schaedeli et al. clearly fails to anticipate the presently claimed methods.

Turning to the rule, the Federal Circuit has spoken clearly and at some length on the question of anticipation. Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. Verdegaal Bros. v. Union Oil Co. of California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Those elements must be expressly disclosed as in the claim. In re Bond, 15 USPQ2d 1566 (Fed. Cir. 1990).

But where the claims are drawn to a new method of using either an old or "obvious" composition, wherein the method has unobvious beneficial or useful effects, the new method claims are patentable even though the composition itself could not be patented. Rohm and Haas Company v. Dawson Chemical Company, Inc. et al., 217 USPQ 515 (D.C. S. Texas 1982) (citing In re Shetty, 566 F.2d 81, 195 USPQ 753 (C.C.P.A. 1977); In re Legator, 352 F.2d 377, 147 USPQ 322 (C.C.P.A. 1965)).

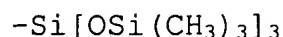
In the present application, independent claim 13 recites a method for imparting flow-and-leveling properties to water based coatings, comprising the step of

adding a trimethylsilyl group-containing copolymer obtained by copolymerizing a reactive monomer (A) having a trimethylsilyl group represented by a structural formula:

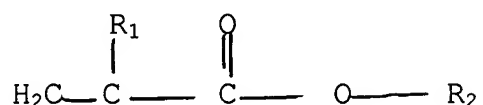


in a molecular structure and/or a reactive monomer (B) having a trimethylsilyl group in the form of a

tris(trimethylsiloxy)silyl group represented by a structural formula:



in a molecular structure with a (meth)acrylic acid ester (C) represented by the formula:



However, nowhere does Schaedeli et al. teach a method for imparting flow-and-leveling properties to water based coatings.

Schaedeli et al. only teaches a terpolymer with silicon-containing side chains, a radiation-sensitive composition based on this terpolymer and processes for the lithographic treatment of a substrate for an electronics component. In particular, Schaedeli et al. discloses a multilayer technique for making a chemically reinforced photoresist containing organosilicon components wherein a specific organosilicon terpolymer is used as a binder for an etching resist in semiconductors. Nothing in Schaedeli et al. relates to a method for imparting flow-and-leveling properties to water based coatings.

Clearly, Schaedeli et al. fails to teach each and every claimed limitation of the independent claims. Therefore, a *prima facie* case of anticipation has not been established.

Accordingly, Applicants respectfully submit that the presently claimed methods are not anticipated by Schaedeli et al. and request

the Examiner not to make the same § 102(b) rejection.

**3. Rejection of Claims 1-12**  
**under 35 U.S.C. § 102(b)**

The Office Action in the parent rejected claims 1-12 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,045,870 ("Noura et al."). The Office Action stated:

Noura et al. teach a coating composition containing a copolymer in which some of the hydroxyl groups are silylated. See specifically Preparation Examples 3 and 4. This reacts various methacrylate esters meeting claimed component (C) with methacrylic acid and acrylic acid, meeting claimed component (G), as well as styrene, meeting claimed component (H). The copolymer has a number average molecular weight meeting that claimed. Subsequently, the copolymer is reacted with trimethylchlorosilane, meeting the reactant in claim 6. 80 mole % of the carboxyl groups are silylated, thus forming a copolymer as claimed. Note that this copolymer meets the limitations of claims 1, to 4, 6, 7, 11 and 12. The copolymer need not contain the monomers in claims 8 to 10, since they are not required to be in the copolymer; rather, these are limitations if such monomers are present.

With regards to claim 5, note that this is a product by process type limitation in that it is a limitation of the monomer used to make the copolymer. However, since the copolymers produced with the monomer of claim 5, and the copolymer produced with the monomers found in Noura et al. appear to be inherently the same, this limitation does not distinguish the claims from the prior art.

Applicants respectfully traverse the rejection made in the Office Action of the parent application because Noura et al. does not teach each and every claimed limitation and also fails to teach the presently claimed method for imparting flow-and-leveling properties to water based coatings. Noura et al. only relates to an acid rain-resistant resin used in topcoats. The copolymers of Noura et al. only contain alkoxysilane units which are not contained in the presently claimed trimethylsilyl group-containing copolymers. Since the copolymers of Noura et al. are different from the presently claimed copolymers and since Noura et al. fails to teach the presently claimed methods, Noura et al. fails to anticipate the presently claimed invention.

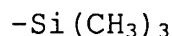
Turing to the rule, the Federal Circuit has spoken clearly and at some length on the question of anticipation. Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. Verdegaal Bros. v. Union Oil Co. of California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Those elements must be expressly disclosed as in the claim. In re Bond, 15 USPQ2d 1566 (Fed. Cir. 1990).

But where the claims are drawn to a new method of using either an old or "obvious" composition, wherein the method has unobvious beneficial or useful effects, the new method claims are patentable even though the composition itself could not be patented. Rohm and Haas Company v. Dawson Chemical Company, Inc. et al., 217 USPQ 515

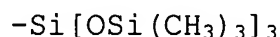
(D.C. S. Texas 1982) (citing In re Shetty, 566 F.2d 81, 195 USPQ 753 (C.C.P.A. 1977); In re Legator, 352 F.2d 377, 147 USPQ 322 (C.C.P.A. 1965)).

In the present application, independent claim 13 recites a method for imparting flow-and-leveling properties to water based coatings, comprising the step of

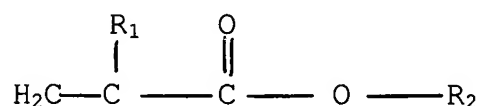
adding a trimethylsilyl group-containing copolymer obtained by copolymerizing a reactive monomer (A) having a trimethylsilyl group represented by a structural formula:



in a molecular structure and/or a reactive monomer (B) having a trimethylsilyl group in the form of a tris(trimethylsiloxy)silyl group represented by a structural formula:



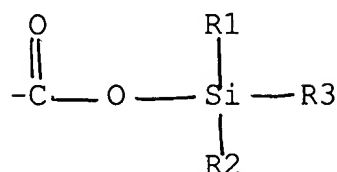
in a molecular structure with a (meth)acrylic acid ester (C) represented by the formula:



However, Noura et al. requires that an alkoxysilane moiety (SiOR) be present in the disclosed organic solvent-based heat curable high solid coating composition. In particular, Noura et al. teaches a carboxyl-containing compound with an acid value of 50 to 500 mg KOH/g, wherein 20 mol % or more of the carboxyl groups



are silylated carboxyl groups represented by the formula:



In contrast, the presently claimed invention recites a reactive monomer (A) having a trimethylsilyl group represented by a structural formula  $-\text{Si}(\text{CH}_3)_3$ , which is not an alkoxysilane. Similarly, monomer (B) of claim 1 is a tris(trimethylsiloxy)silyl represented by the structural formula  $-\text{Si}[\text{OSi}(\text{CH}_3)_3]_3$ . Applicants note that nothing in Noura et al. either expressly or inherently teaches the presently claimed compounds.

Noura et al. further fails to teach the presently claimed method for imparting flow-and-leveling properties to water based coatings. In particular, Noura et al. discloses a composition used to prevent etching and blots on topcoats caused by acid rain on clear coats for automotive exterior panels. Most notable about the compositions of Noura et al. is that they are heat curable. Therefore, as stated supra, the compositions of Noura et al. must contain alkoxysilane units critical to the heat-curing process. In contrast, the presently claimed compositions contain tris(trimethylsiloxy)silyl represented by the structural formula  $-\text{Si}[\text{OSi}(\text{CH}_3)_3]_3$ .

Clearly, nothing in Noura et al. teaches the presently claimed

compositions or relates to a method for imparting flow-and-leveling properties to water based coatings. Noura et al. fails to teach each and every claimed limitation of the independent claims. Therefore, a *prima facie* case of anticipation has not been established.

Accordingly, Applicants respectfully submit that the presently claimed methods are not anticipated by Noura et al. and request the Examiner not to make the same § 102(b) rejection in the parent.

#### **4. Rejection of Claims 1-12** **under 35 U.S.C. § 103(a)**

The Office Action in the parent rejected claims 1-12 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,458,878 ("Tsuboi et al."). The Office Action stated:

Tsuboi et al. teach silyl (meth)acrylate copolymers. See for instance the silyl group containing monomer (I) on column 7, line 40 which corresponds to required component (A) and/or (B), the acrylic unsaturated monomer (II) on column 7, line 58, which corresponds to claimed component (E) and/or (F), and the other monomers that can be present, taught on the top of column 17, which correspond to claimed component (C) and (H). Specifically note the working examples, such as Example A1-18 on columns 35 and 36. This example combines a silyl acrylate, methyl methacrylate, meeting claimed component (C), and polypropylene glycol monomethacrylate, meeting claimed component (F). The molecular

weight meets that claimed, and the monomers are each in an amount that meets the claimed proportions. This differs from that claimed in that the silyl acrylate is triisopropylsilyl rather than trimethylsilyl.

However, as can be seen from the teachings on the top of column 15, trimethylsilyl methacrylates and be used in the alternative with triisopropylsilyl methacrylates. As such one having ordinary skill in the art would have found the copolymer required in the claimed coating composition to have been obvious over the teachings of Tsuboi et al.

With regards to comonomer (H), the Examiner notes that since this can be present in an amount of up to 50%, this embraces 0%. On the other hand, patentees teach that such additional monomers may be present. See for instance the bottom of column 20 through column 21.

With regards to claims 2 and 4, note that these are product by process type limitations that need not be met by the prior art since the copolymer prepared by the method in Tsuboi et al. will result in equivalent silyl units even when prepared in a different manner.

Finally, with regards to the particular limitations of, for instance, claims 7 to 11, the Examiner notes that none of these claims specifically require that these monomers be present, only that when they are present, they be limited as such. Thus while the specific copolymer cited by the Examiner supra meets the limitation of claim 7 and 10, Tsuboi, et al. need not use these particular monomers to render these claims obvious.

Applicants respectfully traverse the rejection made in the Office Action of the parent application because Tsuboi et al. does not teach the presently claimed method for imparting flow-and-

leveling properties to water based coatings. In particular, Tsuboi et al. only discloses a composition to be used on ships' bottoms and underwater structures to improve the appearance due to water exposure and various aquatic organisms such as oysters, hard-shell mussels and barnacles, plants and aquatic bacteria. Absolutely nothing in Tsuboi et al. relates to a method of imparting flow-and-leveling properties to water based coatings.

Turning to the rule, the Federal Circuit held that a *prima facie* case of obviousness must establish: (1) some suggestion or motivation to modify the references; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all claim limitations. Amgen, Inc. v. Chugai Pharm. Co., 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); In re Fine, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); In re Wilson, 165 USPQ 494, 496 (C.C.P.A. 1970).

Moreover, where the claims are drawn to a new method of using either an old or "obvious" composition, wherein the method has unobvious beneficial or useful effects, the new method claims are patentable even though the composition itself could not be patented. Rohm and Haas Company v. Dawson Chemical Company, Inc. et al., 217 USPQ 515 (D.C. S. Texas 1982) (citing In re Shetty, 566 F.2d 81, 195 USPQ 753 (C.C.P.A. 1977); In re Legator, 352 F.2d 377, 147 USPQ 322 (C.C.P.A. 1965)).

In the present application, independent claim 13 recites a method for imparting flow-and-leveling properties to water based

coatings comprising the step of adding a trimethylsilyl group-containing polymer obtained by copolymerizing a reactive monomer with other claimed polymers to water based paints.

Tsuboi et al., on the other hand, only discloses methods for using an antifouling paint composition on hulls or underwater structures coated with the coating films. Although Tsuboi et al. teaches variants of silyl (meth)acrylates, one of ordinary skill in the art would not have been motivated to make the presently claimed method of imparting flow and leveling characteristics to water paints based on such teachings. The presently claimed methods of reducing adverse layer-to-layer adhesive characteristics such as roughening and separating of recoated films used in high finish paints would not have been gleaned from teachings related to non-toxic paints that prevent growth of underwater organism.

Clearly, each and every claimed limitation of the currently amended claims are not taught by the cited references. Therefore, a *prima facie* case of obviousness has not been established.

Accordingly, Applicants respectfully submit that the presently claimed invention is unobvious over Tsuboi et al. and respectfully request that the Examiner not make the same rejections under 35 U.S.C. § 103 in the captioned continuation application.


**CONCLUSION**

In light of the foregoing, Applicants submit that the application is now in condition for allowance. The Examiner is therefore respectfully requested to allow the pending claims. Favorable action with an early allowance of the claims pending is earnestly solicited.

Respectfully submitted,

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